

## Status of INTEX-B papers

This is a summary status of INTEX-B paper as of mid-September 2008. Please note that this list is for those papers closely associated with NASA INTEX-B activities. This list will be updated from time to time as more information becomes available.

### **A. INTEX-B Papers Accepted or submitted**

#### **1. INTEX-B campaign and data analysis**

- Arellano Jr., A., K. Raeder, J. Anderson, P. Hess, L. Emmons, D. Edwards, G. Pfister, T. Campos, and G. Sachse, Evaluating model performance of an ensemble-based chemical data assimilation system during INTEX-B field mission, *Atmos. Chem. Phys.*, 7, 5695-5710, 2007.
- Coddington, O., K. S. Schmidt, P. Pilewskie, W. J. Gore, R. W. Bergstrom, M. O. Román, J. Redemann, P. B. Russell, J. Liu, and C. B. Schaaf (2008), Aircraft measurements of spectral surface albedo and its consistency with ground-based and space-borne observations, *J. Geophys. Res.*, doi:10.1029/2008JD010089, in press.
- Dunlea, E. et al., Evolution of Asian aerosols during transpacific transport in INTEX-B, *Atmos. Chem. Phys. Discuss.*, 8, 15375-15461, 2008.
- Gatebe, C. K., J.M. Butler, J.W. Cooper, M. Kowalewski, M. D. King, Characterization of errors in the use of integrating-sphere systems in the calibration of scanning radiometers, *Applied Optics*, 46(31), 7640-7651, 2007.
- Halland, J. J., H. E. Fuelberg, K. E. Pickering, M. Luo, Identifying convective transport of carbon monoxide by comparing remotely sensed observations from TES with cloud modeling simulations, *Atmos. Chem. Phys. Discuss.*, submitted, 2008.
- Heald, C. L., et al.. Total Observed Organic Carbon (TOOC): A Synthesis of North American Observations. *Atmospheric Chemistry and Physics*, 8, 2007-2025, 2008.
- Kim, S., L. Huey, R. Stickel, R. Pierce, G. Chen, A. Avery, E. Dibb, S. Diskin, W. Sachse, S. McNaughton, and INTEX-B Team, Airborne measurements of HCl from the marine boundary layer to the lower stratosphere over the North Pacific Ocean during INTEX-B, *Atmos. Chem. Phys. Discuss.*, 8, 3563-3595, 2008.
- Leaitch, W. R. et al., Evidence for Asian Dust Effects from Aerosol Plume Measurements during INTEX-B 2006 near Whistler, BC, *Atmos. Chem. Phys. Discuss.*, submitted, 2008.
- McKendry, I.G., A. M. Macdonald, W. R. Leaitch, A. van Donkelaar, Q. Zhang, T. Duck, and R. V. Martin, Trans-Pacific dust events observed at Whistler, British Columbia during INTEX-B, *Atmos. Chem. Phys. Discuss.*, 8, 10275-10300, 2008
- Mao, J. et al., Airborne measurement of OH reactivity during INTEX-B, *Atmos. Chem. Phys. Discuss.*, 8, 14217-14246, 2008.
- Millet et al., New constraints on terrestrial and oceanic sources of atmospheric methanol, *Atmos. Chem. Phys. Discuss.*, 8, 7609-7655, 2008.
- Molina, L. T., S. Madronich, J. S. Gaffney, and H. B. Singh, Overview of MILAGRO/INTEX-B Campaign, *IGAC News Letter*, Issue No. 38, pp. 2-15, April 2008.
- Peltier, R., A. Hecobian, R. Weber, A. Stohl, E. Atlas, D. Riemer, D. Blake, E. Apel, T. Campos, and T. Karl, Investigating the sources and atmospheric processing of fine particles from Asia and the Northwestern United States measured during INTEX B, *Atmos. Chem. Phys.*, 8, 1835-1853, 2008.

- Reidmiller, D., D. Jaffe, D. Chand, S. Strode, P. Swartzendruber, G. Wolfe, and J. Thornton, Interannual variability of long-range transport as seen at the Mt. Bachelor Observatory, *Atmos. Chem. Phys. Discuss.*, 8, 16335-16379, 2008.
- Shim, C., et al., Characterizing Pollution over the Mexico City Metropolitan Area with TES and airborne Measurements, *Atmos. Environ.*, submitted, 2008.
- Singh, H. B., W. H. Brune, J. H. Crawford, D. J. Jacob et al Chemistry and Transport of Pollution over the Gulf of Mexico and the Pacific: Spring 2006 INTEX-B Campaign Overview and First Results, *Atmos. Chem. Phys. Discuss.*, in preparation, 2008.
- Sun, Y., Q. Zhang, A. M. MacDonald, K. Hayden, S. M. Li, J. Liggio, P.S.K. Liu, Kurt K. G. Anlauf, W. R. Leaitch, M. Cubison, D. Worsnop, A. van Donkelaar, R. V. Martin, Size-Resolved Aerosol Chemistry on Whistler Mountain, Canada with a High-Resolution Aerosol Mass Spectrometer during INTEX-B, *Atmos. Chem. Phys. Discuss.*, submitted 2008.
- Swartzendruber P. C., D. Chand, D. A. Jaffe, J. Smith, D. Reidmiller, L. Gratz, J. Keeler, S. Strode, L. Jaeglé, R. Talbot, Vertical distribution of mercury, CO, ozone, and aerosol scattering coefficient in the Pacific Northwest during the spring 2006 INTEX-B campaign, *J. Geophys. Res.*, 113, D10305, doi:10.1029/2007JD009579, 2008.
- Talbot, R., H. Mao, E. Scheuer, J. Dibb, and M. Avery, Total depletion of Hg<sup>0</sup> in the upper troposphere–lower stratosphere, *Geophys. Res. Lett.*, 34, L23804, doi:10.1029/2007GL031366, 2007.
- Talbot, R., et al., Factors influencing the large-scale distribution of Hg<sup>0</sup> in the Mexico City area and over the North Pacific, *Atmos. Chem. Phys.*, 8, 2103-2114, 2008.
- Thompson, A. M., J. E. Yorks, S. K. Miller, J. C. Witte, K. M. Dougherty, G. A. Morris, D. Baumgardner, L. Ladino, and B. Rappenglueck, Tropospheric ozone sources and wave activity over Mexico City and Houston during MILAGRO/Intercontinental Transport Experiment (INTEX-B) Ozonesonde Network Study, 2006 (IONS-06), *Atmos. Chem. Phys.*, 8, 5113–5125, 2008.
- van Donkelaar, A., R.V. Martin, W.R. Leaitch, A.M. Macdonald, et al., Analysis of aircraft and satellite measurements from the Intercontinental Chemical Transport Experiment (INTEX-B) to quantify long-range transport of East Asian sulfur to Canada, *Atmospheric Chemistry and Physics*, 8, 2999-3014, 2008.
- Walker, T.W., et al., 2008. Transpacific transport of reactive nitrogen and ozone to Canada during spring. *Atmospheric Chemistry and Physics*, submitted, 2008.
- Wolfe, G. M., Thornton, J. A., McNeill, V. F., Jaffe, D. A., Reidmiller, D., Chand, D., Smith, J., Swartzendruber, P., Flocke, F., and Zheng, W.: Influence of trans-Pacific pollution transport on acyl peroxy nitrate abundances and speciation at Mount Bachelor Observatory during INTEX-B, *Atmos. Chem. Phys.*, 7, 5309-5325, 2007.
- Zhang, L., et al., Transpacific transport of ozone pollution and the effect of recent Asian emission increases on air quality in North America: an integrated analysis using satellite, aircraft, ozonesonde, and surface observations, *Atmos. Chem. Phys. Discuss.*, 8, 8143-8191, 2008.

## 2. Satellite validation using INTEX-B data and analysis

- Boersma, K.F. et al., Validation of OMI tropospheric NO<sub>2</sub> observations during INTEX-B and application to constrain NO<sub>x</sub> emissions over the eastern United States and Mexico, *Atmos. Environ.*, 42 (19), 4480-4497, 2008.
- Bucsela, E.J., A.E. Perring, R.C. Cohen, K.F. Boersma, E.A. Celarier, J.F. Gleason, M.O. Wenig, T.H. Bertram, P.J. Wooldridge, R. Dirksen, J.P. Veefkind, Comparison of tropospheric NO<sub>2</sub> from in situ aircraft measurements with near-real-time and standard product data from OMI, *J. Geophys. Res.*, 113, D16S31, doi:10.1029/2007JD008838, 2008.
- Emmons, L. K., D. P. Edwards, M.N. Deeter, J. C. Gille, T. Campos1, P. Nedelec, P. Novelli, and G. Sachse, Measurements of

- Pollution In The Troposphere (MOPITT) validation through 2006, *Atmos. Chem. Phys. Discuss.*, submitted, 2008.
- Felker, S. R., Jennie L. Moody, Anthony J. Wimmers, Gregory Osterman, Kevin Bowman, Anne M. Thompson and David W. Tarasick, A Multi-sensor Upper Tropospheric Ozone Product (MUTOP) based on TES Ozone and GOES Water Vapor: II. Validation with Ozonesondes, *J. Geophys. Res.* submitted, 2008.
- Froidevaux, L., Y.B. Jiang, A. Lambert, N.J. Livesey, et al., Validation of Aura Microwave Limb Sounder stratospheric ozone measurements, *J. Geophys. Res.*, 113, D15S20, doi:10.1029/2007JD008771, 2008.
- Livesey, N.J., M.J. Filipiak, L. Froidevaux, W.G. Read, et al., Validation of Aura Microwave Limb Sounder O<sub>3</sub> and CO observations in the upper troposphere and lower stratosphere, *J. Geophys. Res.*, 113, D15S02, doi:10.1029/2007JD008805, 2008.
- Luo, M., et al., TES carbon monoxide validation with DACOM aircraft measurements during INTEX-B 2006, *J. Geophys. Res.*, 112, D24S48, doi:10.1029/2007JD008803, 2007.
- Nardi B., et al., Initial validation of ozone measurements from the High Resolution Dynamics Limb Sounder, *J. Geophys. Res.*, 113, D16S36, doi:10.1029/2007JD008837, 2008.
- Nassar R., et al., Validation of Tropospheric Emission Spectrometer (TES) nadir ozone profiles using ozonesonde measurements, *J. Geophys. Res.*, 113, D15S17, doi:10.1029/2007JD008819, 2008.
- Richards, N., G. Osterman, E. V. Browell, J. Hair, M. A. Avery, and Q. B. Li, Validation of Tropospheric Emission Spectrometer ozone profiles with aircraft observations during the Intercontinental Chemical Transport Experiment-B, *J. Geophys. Res.*, doi:10.1029/2007JD008815, 2008.
- Santee, M.L., A. Lambert, W.G. Read, N.J. Livesey, et al., Validation of Aura Microwave Limb Sounder HNO<sub>3</sub> Measurements, *J. Geophys. Res.* 112, D24S40, doi:10.1029/2007JD008721, 2007.

## B. INTEX-B papers in preparation

- Bertram, T. et al. Observations of Reactive Nitrogen over the North Pacific: Comparisons, Implications and Chemical Constraints, in preparation, 2008
- Cantrell, C. et al., Behavior of peroxy radicals in trans-Pacific transport during INTEX-B, ACP, in preparation, 2008.
- Fairlie, T. D. et al., uptake of acidic components on mineral dust for the Pacific component of INTEX-B, in preparation, 2008.
- Fiedler, V., R. Nau, S. Ludmann, F. Arnold, H. Schlager, A. Stohl, A Chinese SO<sub>2</sub> pollution plume over Europe 1: Aircraft-based measurements and source identification, in prep. for *Atmos. Chem. Phys.*, in preparation, 2008a.
- Fiedler, V., F. Arnold, H. Schlager, L. Pirjola, A Chinese SO<sub>2</sub> pollution plume over Europe 2: Measurements and model simulations of SO<sub>2</sub> induced aerosol formation, in prep. for *Atmos. Chem. Phys.*, in preparation, 2008b.
- Gatebe, C. K., O. Dubovik, M.D.King, A. Sinyuk, and P. Russell, Retrieval of Aerosol Optical Properties from Airborne and Groundbased Radiation Measurements, *Atmos. Chem. Phys.*, in preparation, 2008.
- Hains, J., F. Boersma et al., Improving OMI tropospheric NO<sub>2</sub> using observations from DANDELIONS and INTEX, *J. Geophys. Res.*, in preparation, 2008.
- Latto, Fuelberg, Crawford, Olson, et al., Quasi-Lagrangian Sampling during INTEX-B, in preparation, 2008.
- Livingston, J. et al. Aerosol optical depths from airborne sunphotometry in INTEX-B/MILAGRO as a validation tool for the Ozone Monitoring Instrument (OMI) on Aura", in preparation, 2008.

- Macdonald, A.M., et al., 2008. Long-term measurements at the peak of Whistler Mountain. *Atmospheric Chemistry and Physics*, in preparation, 2008.
- Mauldin et al., Measurements and modeling of OH radicals during INTEX-B, ACP, in preparation, 2008.
- McNaughton, C. et al., Heterogeneous reactions between Asian pollution and dust over the Eastern North Pacific, *Atmos. Chem. Phys. Discuss.*, in preparation, 2008.
- Perring, A. E. et al., Reactive Nitrogen Partitioning and Ozone Production in the outflow of the Mexico City Urban Plume, in preparation, 2008
- Pickering, K. E. et al., OMI absorbing aerosols in Asian plumes and transport across the Pacific, in preparation, 2008.
- Redemann, J. et al., Testing aerosol properties in MODIS (MOD35/MYD35) Collection 4 and 5 using airborne sunphotometer observations in INTEX-B/MILAGRO", in preparation, 2008.
- Shinozuka, Y. et al., Relations between cloud condensation nuclei and aerosol optical properties relevant to remote sensing: Airborne measurements in dust, biomass burning and pollution aerosol over North America, *Atmos. Chem. Phys. Discuss.*, in preparation, 2008.

### C. INTEX-B proposed papers (partial set)

- Separation of regions of contributions to transported air: Path taken and different origins\* (Fuelberg et al. & U. Iowa)
- Cloud processing: What part of observed air masses have previously experienced cloud processing\* (Pfister et al. & FSU)
- Need validation of initialization conditions for forward trajectory models\* (Carmichael et al.)
- Jet stream small structure & interaction with large scale flow \*(Moody-Fairlie-Avery et al.)
- GOES water vapor loops to help identify STE & WCB in 300-600 mb region\* (Moody)
- Ratio of submicron to total scattering as indicator of large particles which is considered to be dust in FT or sea salt in MBL (U. Hawaii)
- Nitric acid and aerosol-associated soluble ions measured on the DC-8 during INTEX-B/MILAGRO (J. Dibb et al.)
- Measurement of SO<sub>2</sub>, NO and HO<sub>2</sub>NO<sub>2</sub> during INTEX-B Phase I on NASA DC-8, Saewung Kim, Georgia Tech, L. Gregory Huey, Robert E. Stickel
- Source Tracers Halon 1211 from China/MC (D. Blake & Science Team)
- DIAL air mass typing from O<sub>3</sub>, aerosol scattering & depolarization, & PV analysis\* (Browell et al.)
- Meteorological Overview Paper\* (Fuelberg et al)

- Airborne Measurements of Aerosol Size Distributions and Related Physiochemical and Optical Properties During MILAGRO (A. Clarke et al)
- Organic single particle analysis: L. Russell et al
- Comparison of TRACE-P and INTEX-B air mass composition (N. Blake et al)
- OMI absorbing aerosols in Asian plumes & transport across Pacific (GSFC)
- Use of satellite data (active & passive) for examining MC outflow would be useful for model validation\* (Kahn & McMillan)
- Evidence of Transport Across the Pacific: MOPITT & MOZART (Emmons et al.)
- Formaldehyde over Mexico City and the pacific (NCAR)
- Inter-comparison studies during INTEX-B Brune)
- TES & GEOS-Chem (Bowman)
- RAQMS uses TES/OMI in data assimilation mode and examining transport over Pacific (Pierce/Fairlie)
- Satellite detection of Mexico City pollution plumes - NO<sub>2</sub>, aerosol, and CO S. Massie, R. Kahn, W. McMillan, L. Emmons, A. Chu
- AATS-14 on the J31 in INTEX-B/MILAGRO: Comparisons to data collected by aerosol sensors on Terra & Aqua, Jens Redemann, John Livingston, Philip Russell et al
- Retrieval of Aerosol Optical Properties from Airborne and Groundbased Radiation Measurements, C. K. Gatebe, O. Dubovik, M.D. King, A. Sinyuk, and P. Russell
- Airborne Solar Spectral Irradiance Measurements during the MILAGRO field campaign, K Sebastian Schmidt, Odele Coddington, Peter Pilewskie
- Polarimetric remote sensing of aerosols, clouds, and land during MILAGRO, B. Cairns et al.
- Aerosol optical depths from airborne sunphotometry in INTEX-B/MILAGRO as a validation tool for the Ozone Monitoring Instrument (OMI) on Aura, J. Livingston, P. Russell et al.
- MTBE as a tracer for Asian and Mexican Megacity Emissions, E. Apel, D. Riemer, A. Hills, L. Emmons, B. Sive
- CH<sub>4</sub>-CO-N<sub>2</sub>O: distributions and source signatures (Diskin/Sachse)
- Aerosols (MC & Asia): satellite & aircraft (transport & evolution) (U. Hawaii)

- Natural & anthropogenic sources seen from NATIVE (Penn State)
- Regional impact of aerosol optical properties on photochemical activity (Y. Tang et al.)
- Verification of CALIPSO aerosol typing algorithms (A. OMAR, GSFC)
- Scale lengths of Ozone, Water Vapor and Carbon Monoxide Correlations measured During INTEX-B (M. Avery et al.)